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AUTHOR Swain, Merrill; And Others
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ABSTRACT

Several research and evaluation studies completed in bilingual education programs for language minority children in Canada are presented to support the claim that heritage, or first, language (HL) literacy plays an important role in the acquisition of a third language. A study completed by the Ontario Institute for Studies in Education investigated the learning of a third language (French) by eighth grade HL students (N=210) who had been enrolled in an English/French bilingual program since grade five. The level of proficiency attained in French by the HL students was compared to the level of proficiency attained by students enrolled in an early total French immersion program. The research questions addressed included: (1) the effect of HL literacy knowledge on third language literacy; (2) the difference in acquisition of French language skills based on whether the HL is a Romance language; and (3) the effects of socioeconomic variables on French language proficiency. It is concluded that literacy in the HL enhances performance in third language learning. The implications of these findings as they relate to educational programs for HL children are discussed. (DJD)

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THE ROLE OF MOTHER TONGUE LITERACY IN THIRD LANGUAGE LEARNING

Merrill Swain
Sharon Lapkin
Norman Rowen
Doug Hart

Ontario Institute for Studies in Education

252 Bloor Street West
Toronto, Ontario
M5S 1V6

FL017964

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Merrill Swain
Sharon Lapkin
Norman Rowen
Doug Hart

Ontario Institute for Studies in Education
Toronto, Ontario Canada

INTRODUCTION

The main question which this paper addresses is whether the learning of a third language is enhanced through literacy in one's first language. To some, it may seem self-evident that being literate in one's mother tongue will positively impact on the development of literacy skills in another language. However, educational practices in many parts of the world, including many parts of Canada, show no hint of accepting such a statement as self-evident. Indeed, examination of the beliefs of many parents, teachers, educational administrators and policy-makers leads one to the contrary conclusion: that learning a second or third language is impeded by knowledge and use of the first language.

As evidence for this belief, consider the following: that many immigrant parents in Canada believe that by speaking or reading to their children in their own language, they will seriously slow down their child's acquisition of English; that initial education in a child's first language (be it Tagalog, Urdu, Arabic, Italian, etc.) is seen as taking time away from the important task of learning a second language — that of the school and society; that it is common practice for teachers to recommend to immigrant parents of children who are having trouble in school to use more English with their children. Such practices belie the possibility of positive transfer from the first language to another one.

Similarly, many immigrant parents believe that the learning of a third language (e.g. French) should be deferred until the second (majority) language, in this case English, has been firmly established.

This paper is organized in the following way: first, we consider several research and evaluation studies relevant to the issue which emanate from bilingual education programs for minority language children. Secondly, we describe a study we have recently completed which involved grade eight children who had been enrolled in an English/French bilingual program since grade five. Some of the students in the program acquired a Heritage Language (HL) in the home before they began school,[1] and some of those students acquired literacy skills in their HL either at home or in Heritage Language Programs (HLP)[2] at school. All students in the program were literate in English before beginning the bilingual program. Our study examines their learning of French with respect to i) their literacy knowledge and use of an HL relative to those students who do not have an HL and ii) the type of HL spoken (Romance versus non-Romance). Furthermore, as it is possible that our observed effects on third language learning may be a consequence of socio-economic variables related to HL proficiency rather than HL literacy per se, we examine these relationships and conclude that literacy in the HL accounts for enhanced performance in third language learning. Fourthly, we briefly explore the implications of our findings as they relate to educational programs for HL children.

BILINGUAL EDUCATION FOR HERITAGE LANGUAGE CHILDREN

Some of the most compelling evidence for the positive impact that mother tongue literacy has on second language learning comes from evaluations of bilingual education

programs for HL children. In general, it has been found that children who are initially educated in their HL learn a second language better (and are academically more successful) than those who have no such solid foundation in their first language (Troike, 1981).

Different reasons why this might be so have been posited — some linguistic, others more social and attitudinal, in nature. In the latter category fall such explanations as 'success breeds success'. It is not infrequent that children who are educated in a language they initially do not understand and where many of their classmates are native speakers of the school language, experience failure or fear. Provision of HL schooling provides the opportunity for children to understand their surroundings and experience academic success, self-confidence, a stronger sense of personal worth and positive feelings about school.

Linguistic explanations are more specific with respect to the impact that first language literacy per se may have on second language literacy learning. It is argued, and there is considerable evidence (Ovando and Collier, 1985), that even when two languages use different writing systems, readers are able to apply the visual, linguistic and cognitive strategies they use in first language reading to reading in the second language. "Readers apply what they figured out about the process in one language to reading in another language" (Hudelson 1987, p. 839).

In writing about the benefits of first language literacy, Hudelson (1987) notes two in particular.

> The first benefit of a strong native language literacy program is that it develops in children an understanding of what reading and writing are for, using the medium of a language that the children speak fluently and that they have used to make sense of their life experiences to this point in time...the task will be more easily accomplished in a language that one speaks fluently, because the reader will be able to make more efficient use of the cueing systems of the language to predict the meaning of written forms (p. 830). The second benefit of using the children's native language is that native language literacy provided the children with resources to use as they moved into second language reading and writing (p. 833).

Cummins (1981) provides a theoretical explanation in his 'linguistic interdependence hypothesis'. He posits that the abilities which underlie the use and interpretation of 'decontextualized' language (of which many literacy activities are prime examples) are crosslingual. Thus for an individual who is acquiring a second language, learning in the first language to use language as a symbolic system — that is, as a means to gain and apply knowledge using language alone, as well as a means to abstract, generalize and classify — does not limit that knowledge, or function, to only the language in which it was learned. In other words, spending time learning in the language one knows best may benefit both languages equally with respect to developing those language-related skills basic to academic progress in our schools.

Let us consider the results obtained from an evaluation of an exemplary bilingual education program. We consider the program to be exemplary as it involved instruction in the HL, including literacy instruction, not only initially, but throughout the six years of the program. The program involved Navajo students in Rock Point in the United States. Navajo students in Rock Point used to be educated in English only, and their performance on standardized tests of English remained below the performance expected for their grade level through elementary schooling. In 1971 a bilingual program was set up in which reading in English was not introduced until grade two after children had learned to read in Navajo. From grade two to grade six, the program involved

instruction in both languages. Students were administered standardized tests of English achievement and the results were compared, among other groups, those of previous students at Rock Point who had not had bilingual education. Rosier and Farella (1976) who evaluated the program conclude that:

> Data presented suggest that the effects of continuous bilingual instruction may be cumulative: that while Navajo students who have recently (in 2nd grade) added reading in English to reading in Navajo may do no better on standardized achievement tests than Navajo students who began reading in English, they do achieve better test scores each year thereafter. Nor does the difference seem to remain the same. The students who learned to read in Navajo and who continue to learn through Navajo and English appear to obtain scores progressively higher in English than those who did not. In effect, their rate of growth helps them to achieve progressively closer to the 'national norms' in each grade third through sixth, instead of maintaining a 'continuously retarded' level of achievement (387-388).

In a meta-analysis of 23 studies of bilingual education programs in the United States, Willig (1985) showed that HL students in bilingual programs (i.e. HL/English) scored significantly higher than students in unilingual English programs in not only reading in English but in language, mathematics and total achievement as well. (For related findings, see also Troike 1978; Cummins 1981; Cummins, Swain, Nakajima, Handscombe, Green, and Tran 1984; Hakuta 1986; Genesee 1987; Krashen and Biber 1988.)

These results are corroborated by studies of immigrant students who arrive in their host country after having had initial schooling in their home country. Skutnabb-Kangas (1979; 1981) found that students who had taken most of their elementary schooling in Finland before moving to Sweden did better in Swedish after two years of study than Finnish students who had been educated in Swedish in Sweden from the first grade. Similary, Troike (1986) reports on an unpublished study by Gonzalez which found that

Mexican children who had had two years of schooling in Mexico before immigrating to the United States did better in English than those who had no schooling prior to immigration.[3]

THE METROPOLITAN TORONTO STUDY

a) The Context for the Study

Toronto is a multilingual city: over half the students who enter the English school system in Toronto do not have English as their mother tongue. Many parents of these children feel that although they would like their children to learn both of Canada's official languages, priority must be placed on acquiring the language of the wider community in which they live. In such a context, it has been suggested that a program which begins instruction using English and introduces French as a language of instruction around grade four or five would be more suitable than an early total immersion program. One such bilingual program which begins at grade five exists in the Metropolitan Separate School Board (MSSB) in Toronto.

The MSSB instructs children initially through English, and then in grade five, the students enter a bilingual program where for half the day instruction is in English and for the other half of the day instruction is in French. From grades one to four, the students in the bilingual program had exposure to French through short daily periods (i.e. 20 to 40 minutes) of French as a second language ('core' French).

The main question our study sought to answer was what the French language proficiency of the MSSB students at grade eight was like relative to students in an early total French immersion program. To do this, data were collected in three other boards

of education in the Metropolitan Toronto area which had an early immersion program. (See Hart, Lapkin and Swain 1987a for an account of the full study and the results obtained.) However, for purposes of this paper, we will focus only on data obtained from from the MSSB students, because it is only in this Board of Education where the number of children whose home language is other than English or French and who were enrolled in a bilingual program is sufficient to warrant analyses based on home language use and literacy practices.[4]

Data were collected from sixteen MSSB grade eight bilingual classes[5] involving 380 students. Of the 380 students, 319 students completed the student questionnaire and language tests of writing, reading and listening skills in French.[6] Tests involving speaking in French were administered to a random sample of eight students in each class plus any HL students who were not in the random sample of eight, for a total of 210 students.[7]

b) Questions Addressed

As we have seen from the brief review of the literature on bilingual education, there is considerable evidence which indicates that the learning of second language literacy skills is enhanced through having developed such skills in the first language. To our knowledge, however, there are no studies which examine the impact of first language (HL) literacy knowledge and use on third language learning, particularly in the context where all those studied have learned to read in at least one other language — in this case English, their language of initial schooling. Furthermore, as the third language in question is French, it is of interest to ask if there is differential impact on its acquisition depending on whether the HL is a Romance or non-Romance language.

Also, in the present study, we are able to begin to tease apart the impact of HL use which does not include literacy activities from HL use which includes them. In so doing, we are able to address the issue of the additional impact HL literacy has above and beyond that provided by the oral use of a heritage language.

Finally, as literacy practices in the home tend to be associated with socio-economic class, it is important to investigate the extent to which our findings may be confounded with socio-economic variables. If there are third language learning differences associated with HL literacy practices, it is possible that these differences relate as strongly to socio-economic variables as they do to literacy per se. Therefore, we will examine the degree to which HL literacy practices are associated with key socio-economic status (SES) variables such as parents' level of education and their occupations.

c) **Measures Used**

The instruments used to collect the French language and background data were developed for this particular study. Tests which measured both receptive (listening, reading) and productive (speaking, writing) skill areas were prepared and pilot-tested prior to their use in the main study. We sought to make the set of tests as communicative as possible while using formats which would allow specification of psychometric characteristics.[8] This involved using quasi-realistic materials and providing thematic links between tasks where possible.

The test set consisted of a Test de Comprehension Auditive (TCA) for assessing listening comprehension; a Test de Mots à Trouver (TMT) — a cloze test measuring reading comprehension; 'open' writing and speaking tasks; and a sentence repetition task. The open writing task immediately follows the cloze test and is thematically linked to it.

The open speaking task follows the sentence repetition exercise, both of which are thematically linked to different passages of the listening test. Additionally students completed a questionnaire that asked, among other things, for information relating to the occupations and educational levels of their parents as well as for information about languages other than English and French used at home and their frequency and type of use.

i) Test de Mots à Trouver (TMT)

The TMT is a cloze test based on a text concerning the 'Abominable Snowman' or 'Yeti' purportedly resident in the Himalayas. The original text was drawn from a French Reader's Digest article.

The scoring procedure yielded a maximum score of 25, using the 'acceptable' method of scoring. The acceptable responses were based on those obtained from pilot data from immersion classes and from two Quebec francophone classes and reviewed by at least two adult francophones.

ii) Open Writing Task

The context for the writing task incorporates the theme of the TMT: students are asked to state what they thought about reports about 'strange creatures' and specifically, their own opinion about whether the 'Yeti' exists and their reasons for this view.

Several measures were obtained from the writing of the students. First, the number of words written were counted. Secondly, an error count was made of the non-homophonous grammatical errors (that is, errors which would sound incorrect if spoken). This measure gives some indication of the students' control over the written

manifestations of grammatical knowledge. Thirdly, a global judgement of 'good' writing was made which involved two dimensions: complexity of sentence structure and phrasing, and incidence of spelling, grammatical and syntactic errors. A rating of 0 indicated use of simple sentence structures and a high number of grammatical errors, whereas a rating of 3 indicated use of complex sentence structures and relatively few grammatical errors.

iii) Test de Compréhension Auditive (TCA)

The TCA requires students to answer multiple-choice questions based on passages to which they have just listened. The passages are recordings of actual French radio broadcasts including, for example, a news items, a weather forecast and a segment of an interview. A mix of male and female voices are heard. There are 15 questions in total based on seven passages. Students listen to the passage twice and then hear the question twice. The multiple-choice answer options are presented to the students in written form as they are listening to the questions, thus providing them the possibility of increasing their comprehension through access to written text of the questions.

iv) Open Speaking Test

The context for the speaking task is the last passage of the TCA, which is an interview with a Quebec student of Italian home background regarding parental strictness. In the speaking task, students are asked to comment on the strictness of their own and/or their friends' parents and to provide examples. The speaking task was administered individually to a random sample of students, always in a session following the administration of the TCA.

The speech samples of the students were scored for fluency. A four point scale was used, with "0" reflecting poor 'attack' skills ("debit"), uneven rhythm, inappropriate stress patterns, and use of frequent and prolonged pauses often in inappropriate places. The top rating of "3" reflects native-like rate of speech, rhythm, stress and intonation patterns, use of liaison, and avoidance of overly long pauses in appropriate places.

V) Sentence Repetition Task

In this task, students first read a (slightly modified from the original) text of an actual French language weather broadcast. The written text was then withdrawn and the weather bulletin was heard in its entirety. Next each sentence was played separately and the student attempted to repeat it. Thus as with the TCA, this task, which in order to reconstruct sentences for repetition involved comprehension of the French spoken,[9] included the possibility of making use of written text to support comprehension of the spoken passage.

Two scores were obtained from the sentence repetition data which are of particular interest here. First, a score of 1 was given if the meaning of the sentence was conveyed even if the exact wording of the original sentence was not given. Otherwise, the student obtained a score of 0. The scores were summed across sentences, making 10 the maximum possible. This score was considered to indicate, along with the TCA, the students' understanding of spoken French. Secondly, correct reproduction of specific syntactic features, discursive features, compulsory liaisons and syncopes (the dropping of the mute 'e' in speech) were counted. Across all the sentences, 21 occasions of the particular features singled out for exact repetition occurred, thus making the total possible score 21. This measure was considered as an indication of the students' spoken French proficiency.

vi) Parental Level of Education

As indicated above, students were asked to complete a questionnaire. Students were asked to indicate for each of their parents separately the highest level of education that they had obtained. There were 8 levels: elementary, some high school, high school diploma, some community college or business/technical school, graduation from community college or business/technical school, some university, university degree, and graduate or professional degree.

vii) Parental Occupational Status

As part of the same questionnaire, students were asked to indicate separately for each of their parents what kind of work they do. Examples of homemaker, plumber, nurse, bank teller and doctor were given. The occupational responses (excluding non labour force categories) were coded according to the Porter-Pineo Scale (Pineo, Porter and McRoberts, 1977) as revised to fit 1980 census categorization. Both the occupational status and educational attainment questions were sent home for completion with parents.

viii) Heritage Language Use: Literacy

Students were asked a number of questions in order to determine HL use patterns. To obtain categories which would indicate literacy knowledge in the HL, information from several questions was combined. The questions used asked students to list what languages, not counting English and French, they understand in written and spoken form; and to indicate the main ways in which these languages are used (for example, speaking to parents, writing to relatives, watching TV, reading letters or newspapers). Using this information, four categories were derived: 1. no HL; 2. HL but unable to understand the written form of it (HL non-lit); 3. can understand HL in the written form and did not

indicate any use of the written form (HL lit non-user); 4. understands and uses HL in the written mode (HL lit user).

ix) **Heritage Language Use: Frequency**

Our 'frequency of use' variable is based on information derived from asking students how often English and any other language is spoken in their home. Students then circled one of five categories for each language: never, hardly ever, sometimes, about half the time, most of the time. For purposes of analysis in this study, we grouped the responses into two categories: 1. infrequent (never, hardly ever and sometimes) and 2. frequent (about half the time and most of the time).[10]

d) **Results**

i) **Impact of Heritage Language Literacy**

Table 1 shows mean scores on the French proficiency tests for the four categories defined by use of a Heritage language (see above). Overall, the results show that literacy knowledge in the HL, regardless of whether learners are currently making use of those literacy skills, has a strong positive impact on the learning of a third language. Generally speaking there is little difference between those who have no HL and those who do have an HL but cannot read or write it. This is the case, even though all students have at least one language of literacy — English.

Insert Table 1 about here

The first five measures shown on Table 1 deal with tests directly involving literacy skills. The next three measures represent results from tests involving primarily listening comprehension but given the manner of test administration they involve the use of

literacy skills to provide additional information and context to the task at hand. The last measure is purely a measure of spoken French proficiency in which the task itself involved no reading or writing. With one exception (non-homophonous errors), the differences are significant at p .002.

The results for the TMT (cloze) illustrate clearly the pattern of results noted above for most measures: there is virtually no difference between those students who have no HL and those who do but who have no literacy skills in it. Similarly, there is little difference between those who are literate in their HL but claim not to be involved currently in literacy activities and those who are literate and make use of those skills. This pattern is also seen with respect to the length of the 'opinion' statements in French (word count), listening comprehension (TCA and global understanding) and speaking (total features repeated and fluency). Subsequent analyses on these measures comparing the mean of student scores in the no HL and HL non-lit groups with the mean of students scores in the HL lit non-user and HL lit user groups revealed a highly significant difference (p .002) in all cases.

The fourth and fifth measures shown on Table 1 indicate that among those with no HL, 29.1% obtained a '0' (write using simple sentences with numerous grammatical errors) while only 5.1% obtained a '3' (write complex sentences with few grammatical errors). Similarly, among those who have an HL but are not literate in it, 34.8% obtained a '0' while only 8.7% obtained a '3'. These figures contrast with those who are literate in an HL: a considerably lesser proportion obtain scores of '0' (12.8% for HL lit non-user and 9.1% for HL lit user) and a somewhat higher proportion obtain scores of '3' (17.0% for HL lit non-user and 15.2% for HL lit user) thus corroborating the pattern noted with the other measures of French proficiency.

The exception to the pattern noted is with non-homophonous errors. The figures in Table 1 represent error counts (and therefore the lower the figures, the better the results). The results shown in Table 1 are non-significant, indicating that having a mother tongue in which one can or cannot engage in literacy activities makes no difference to the number of grammatical or non-homophonous spelling errors the students make while writing in French. As this measure would appear to represent the most 'surface level'/'technical' features of written language tested — which are, in effect, language specific — it may be that prior literacy experience has little transferability.

To summarize, it appears that HL literacy has a generalized positive effect on third language learning; that is, its positive impact is not limited to literacy-related activities in the third language. What appears to be crucial is to be able to read/write in the HL as opposed to be making current use of such knowledge. Furthermore, our results suggest that the effect is related to literacy knowledge (whether currently used or not) rather than oral proficiency in the HL.

ii) Relationship Between HL Frequency of Use and Literacy Knowledge

One issue in interpreting the above findings is whether the results could be due simply to a general high level of proficiency in the mother tongue,[11] or whether they are specifically due to the impact of HL literacy.

In order to tease apart general HL proficiency as a variable and HL literacy as a variable, we examined test scores as a function of frequency of use and literate versus non-literate background. Doing so involved making the assumption that students who report frequent use (about half the time, most of the time) of an HL in the home are

proficient in that language. Specifically, we looked to see if, among those who reported their HL to be frequently used in the home, there was a tendency for those who are also literate in their HL to do better on test measures relative to those who are not. Results are shown in Table 2.

Insert Table 2 about here

Table 2 shows that with the exception of non-homophonous errors and fluency in speaking, differences between proficient HL students who are literate in their HL and those who are not, are statistically significant (p .05). Thus, it appears that HL literacy has an enhancing effect on third language learning independent from that of overall general HL proficiency.

iii) Relationship Between HL Literacy and SES Variables

Literacy knowledge and use have frequently been found to be positively associated with socio-economic variables. That is to say, the more literate behaviour a child/adult engages in, the greater the probability that the child/adult comes from a high SES home background. What this means is that, for the most part, in studies investigating the relationship between literacy and background variables, SES and literacy have been confounded. In such a case, it is impossible to know whether the relationship found is due to SES variables or to literacy per se.

For this reason, we considered it important to investigate the relationship between certain SES variables and literacy among our students. Our approach to this task was to do cross-tabulations of our four-category literacy variable against a number of SES indicators: fathers' educational level, mothers' educational level, fathers' occupation and

mothers' occupation. As the pattern of results for mothers' and fathers' educational attainment and for mothers' and fathers' occupation are similar, only the results pertaining to fathers are given in the tables. Furthermore, only the extremes of the SES categories are shown, as little additional information is gleaned from the presentation of all the categories. The results are shown in Tables 3 and 4.

Insert Tables 3 and 4 about here

Table 3 considers the highest level of education attained by fathers cross-tabulated with language/literacy abilities of their children. Two categories of educational attainment are shown: fathers who have had elementary school and/or who have had some high schooling; fathers who have completed a university and/or who have completed a graduate or professional degree. Table 4 shows fathers' occupation cross-tabulated against the language/literacy background of their children. Results are presented for two broad polar occupation categories: managers or professionals and semiskilled or unskilled workers.

Tables 3 and 4 present data indicating that the effects we have thus far ascribed to HL literacy are not, in fact, the masked effects of socio-economic status. First, among students who have an HL, those literate in it are not disproportionately drawn from high SES families in comparison to HL non-lit students. There is a broad similarity in the distributions of fathers' education and fathers' occupation for HL lit and HL non-lit students. The proportion of university-educated fathers is somewhat higher for HL literate students (25.7% and 28.7% versus 21.4%, but so too is the proportion of fathers without a high school diploma (33.4% and 31.0% versus 23.8%). In the case of fathers' occupation, the main difference between HL literate and non-lit students is the

somewhat higher proportion of the former (34.1% and 31.9% versus 22.2%) whose fathers hold semiskilled or unskilled jobs. In summary, HL literate and non-literate students have broadly similar distributions regarding SES backgrounds. Thus, among students who have an HL, differences in third language proficiency associated with HL literacy cannot be ascribed to SES.

Tables 3 and 4 also indicate that SES is not a credible candidate for explaining differences in third language proficiency between those literate in an HL and students without an HL. In comparison to students with no knowledge of an HL, a greater proportion of HL literate students have fathers who lack a high school diploma; a smaller proportion have fathers with a university degree. As Table 4 shows, a similar patterns appears regarding fathers' occupation. Fathers of HL literate students are more likely to hold semiskilled or unskilled jobs and less likely to hold managerial or professional jobs than fathers of students with no knowledge of an HL.

Thus, although it might be predicted that having parents with higher levels of formal education or more prestigious occupations and no HL would favour a student's performance on French language tests, as we have seen from the test results, this is not the case.

iv) Impact of Romance versus Non-Romance Heritage Language

A reasonable assumption about the influence of one language on the learning of another is that positive transfer will be more likely to occur between two related languages than between two unrelated languages. We decided to explore this issue by examining the differential impact on the learning of French — a Romance language — of having a Romance versus non-Romance HL.

The students forming the Romance HL group reported using one of the following Heritage languages: Italian, Spanish, or Portuguese. The students forming the non-Romance HL group reported using one of the following Heritage languages: German, Polish, Hebrew, Filipino/Tagalog, Chinese, Greek or Korean.

The results are shown in Table 5. The first point to note about the figures in Table 5 is that in all cases there is a trend for Romance HL students to do better on the French proficiency measures than non-Romance HL students. However, the difference between these two groups is significant (p .05) in only two cases: global understanding and fluency. Thus, although the results are in the expected direction, they are not strongly supportive of the hypothesis that positive transfer is more likely to occur when the first language is from the same language "family" as the language being learned.

Insert Table 5 about here

DISCUSSION

The research reported in this paper strongly supports the claim that literacy in one's mother tongue enhances third language learning. It appears from this study that there is an effect of first language literacy per se independent of first language oral/aural language skills, independent of general level of HL proficiency and independent of the linguistic/historical relationship between the two languages.

Four points are particularly worthy of note from the findings of this study. First, it is clear that literacy in the HL adds something above and beyond literacy in the second language. This is to say, all the students in the study had learned to read in English, their initial language of schooling. Yet literacy in the HL appears to have contributed to

a generalized higher level of proficiency in the third language. It is one of the weaknesses of the current study that we do not know when the HL students learned to undertake literacy activities in their HL: for some it is highly probable that they learned these skills in Heritage Language Programs (see footnote 2) at school. This means that, for them, HL literacy might not be their language of initial literacy. However, it might well be that HL literacy provides them with a fuller understanding of "what reading and writing are for, using the medium of a language that (they) speak fluently" (Hudelson 1987, p. 830). Additionally, it may give them a feeling of success, pride and self confidence, which, as we have suggested, may breed further success.

Secondly, it appears from our results that knowledge of HL literacy skills is as important as whether one is currently making use of them. This finding supports the notion of 'linguistic interdependence'. So too, does, our third point: that transfer appears least likely to occur with 'surface level/language specific' aspects of language. What is interdependent is knowledge and process.

Fourthly, in the sample of students we considered in this research, SES does not appear to be confounded with HL literacy practices. This may be because HL literacy has been learned by some at school. Whatever the reason, it is unusual to be able to unconfound these two variables. We therefore place a great deal of importance on the finding that third language learning is enhanced through first language literacy, independent of SES variables.

Our results contribute to the growing literature which indicates that bilingual education programs that promote first language literacy have an overall positive effect on the learning of other languages. They represent an extension of the findings that

when the second language is required for academic success and participation in the target language society, the provision of a sound first language basis which includes literate activities is a wise investment.

Footnotes

1. Current terminology used to refer to the first, second or third language learned by a child is somewhat of a nightmare. For example, in some Ontario boards of Education the term 'third language' is used to refer to the students' first language. In this case, the term 'third language' has arisen because, from the school's point of view, the students' first school language is English, their 'second language' is French, leaving only the term 'third language' to refer to the language the child came to school knowing if it was other than English or French. Other terms which have been used to refer to a student's first language in the literature and in school policy statements in Canada and the United States include 'home language', 'mother tongue', 'native language', 'minority language' and 'heritage language'. In this paper, in order to reduce confusion to a minimum, we have opted to use the term 'Heritage Language' (HL) to refer to the first language a child learns if that language is other than English or French. For these students, English is their second language and French is their third language. For students who do not have an HL, then English is their first language and French is their second language. Given that the focus of this paper in on HL students, children whose first language is English are referred to as 'no HL' students.

2. In Ontario, there exist Heritage Language Programs (HLPs). These programs are primarily intended for HL children as an opportunity to develop further their HL skills and to learn about their HL culture. They are typically offered optionally as an after-school class for a half hour daily or as a Saturday morning session. In a few cases, however, they are offered as a daily half-hour class integrated into the school day. It is likely that at least some of the HL students in our study learned their HL literacy skills through their participation in an HLP.

3. It should be noted that we have made no mention of 'French immersion' programs in our discussion of bilingual education programs. That is because a distinction is typically made between bilingual education programs for majority language children and minority language (or in the terminology of this paper, HL) children (see, for example, Swain 1981) allowing for the fact that to produce bilingual individuals different formats of bilingual education are appropriate. However, it should be noted in the context of the present discussion that the performance in French of early immersion students and late immersion students by the end of high school is quite similar particularly in literacy-related tests (Swain and Lapkin 1986; Wesche, Morrison, Pawley and Ready 1986), thus suggesting once again that rapid progress can be made in the acquisition of literacy skills in a second language once a firm foundation has been established in the first language.

4. This in itself may be taken as some evidence of parents' commonsense understanding that their HL children are likely to profit from the later introduction of French. While other factors are undoubtedly at work, it is noteworthy that the proportion of HL children in early immersion programs is extremely small relative to the MSSB bilingual program.

5. There were in fact twenty-two grade eight bilingual classes in the population. Six classes did not participate in the research because they were in schools which had been involved in a recent provincial review of immersion education.

6. The reduction from 380 to 319 students is due mainly to the fact that parental permission was sought for each student's participation in the study. Approximately 16% of the parents refused to allow their child to participate, or did not complete the form requesting permission. We consider the 84% participation to be high under the circumstances. Of the 319 students who did participate, numbers vary slightly for different language tests due to absentees and for different questionnaire responses due to non- or uninterpretable responses.

7. Again, numbers vary slightly for different language tests due to absentees and for different questionnaire reponses due to non- or uninterpretable responses.

8. On this point, see Hart, Lapkin and Swain 1987b.

9. All sentences used were too long to allow reproduction from short-term memory.

10. There were 38 students who listed an HL but gave no information as to the frequency of usage. Therefore, these 38 students were excluded in this categorization.

11. See Cummins (1976) where he argues that above a certain 'threshold' level, proficiency in a first language will benefit second language learning.

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Table 1
Proficiency Measures by Heritage Language Literacy Groups

Measure	No HL		HL non-lit		HL lit non-user		HL lit		
	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	sig.*
Reading									
TMT (max = 25)	9.82	119	9.89	46	13.15	47	12.87	99	.000
Writing									
Word count	57.66	119	55.70	46	72.11	47	69.96	99	.000
Non-homophonous errors	2.47	118	2.28	46	1.77	47	2.21	99	.128
Global (% '0')	29.1	34	34.8	16	12.8	6	9.1	9	.002
Global (% '3')	5.1	6	8.7	4	17.0	8	15.2	15	
Comprehension									
TCA (max = 15)	7.92	119	7.63	46	9.62	47	8.83	99	.001
Global understanding (max = 10)	3.35	49	3.93	40	5.67	36	5.66	85	.000
Speaking									
Total Features Repeated (max = 21)	4.82	49	3.65	40	5.39	36	7.21	85	.000
Fluency (0 - 3)	1.07	44	.89	38	1.39	36	1.44	82	.001

* Based on one-way analysis of variance for all measures except the global writing scores; for the latter, the significance level is for the chi-square value for the cross tabulations of the global written measure with HL groups.

Table 2
Proficiency Measures by Heritage Language Literacy Groups for Students Proficient in their Heritage Language*

	HL non-lit		HL lit		
Measure	$\bar{X}$	N	$\bar{X}$	N	sig.
Reading					
TMT (max = 25)	10.39	18	13.14	96	.046
Writing					
Word count	54.06	18	71.58	96	.021
Non-homophonous errors	1.61	18	2.07	96	.304
Comprehension					
TCA (max = 15)	7.39	18	9.11	96	.036
Global understanding (max = 10)	3.72	18	5.78	85	.004
Speaking					
Total Features Repeated (max = 21)	3.94	18	7.08	83	.006
Fluency (0 - 3)	1.18	17	1.44	82	.193

* Frequency of HL use in the home is "about half the time" "or most of the time".

Table 3

Distribution of Fathers' Highest Educational Level
(Polar Categories) Within Heritage Language Literacy Groups

	elementary or some high school	university or graduate/ professional degree
no HL	13.4%	39.2%
HL non-lit	23.8%	21.4%
HL lit non-user	33.6%	25.7%
HL lit user	31.0%	28.7%

Table 4

Distribution of Fathers' Occupation
(Polar Categories) Within Heritage Language Literacy Groups

	semiskilled or unskilled workers	managers or professionals
no HL	13.5%	31.7%
HL non-lit	22.2%	15.6%
HL lit non-user	34.1%	18.2%
HL lit user	31.9%	19.1%

Table 5
French Proficiency Measures by Heritage Language Background
(Romance versus Non-Romance)

	Language Background				
Measures	Romance	N	Non-Romance	N	Sig
Reading					
TMT (max = 25)	13.90	86	12.60	55	.201
Writing					
Word count	78.51	86	65.69	55	.060
Non-homophonous errors	2.01	86	2.18	55	.584
Comprehension					
TCA (max = 15)	9.48	86	8.56	55	.097
Global understanding (max = 10)	6.05	73	5.02	44	.048
Speaking					
Total Features Repeated (max = 21)	7.30	73	6.45	44	.309
Fluency (0 - 3)	1.57	72	1.21	42	.013